

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>43043x344 / 57 LR</b>	<b>FOR FURTHER ACTION</b> <span style="float: right;">See Form PCT/IPEA/416</span>	
International application No. <b>PCT/NZ2004/000228</b>	International filing date (day/month/year) <b>22 September 2004</b>	Priority date (day/month/year) <b>22 September 2003</b>
International Patent Classification (IPC) or national classification and IPC  Int. Cl.  <b>G06F 17/30 (2006.01)</b>		
Applicant <b>EUREKSTER, INC et al</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of <b>3</b> sheets, including this cover sheet.	
3. This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;">           a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <b>16</b> sheets, as follows:           <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).   <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.           </div> </div> <div style="margin-left: 20px;">           b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).         </div>	
4. This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I      Basis of the report  <input type="checkbox"/> Box No. II      Priority  <input type="checkbox"/> Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  <input type="checkbox"/> Box No. IV      Lack of unity of invention  <input checked="" type="checkbox"/> Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  <input type="checkbox"/> Box No. VI      Certain documents cited  <input type="checkbox"/> Box No. VII      Certain defects in the international application  <input type="checkbox"/> Box No. VIII      Certain observations on the international application         </div>	

Date of submission of the demand <b>30 March 2005</b>	Date of completion of this report <b>16 January 2006</b>
Name and mailing address of the IPEA/AU <b>AUSTRALIAN PATENT OFFICE          PO BOX 200, WODEN ACT 2606, AUSTRALIA          E-mail address: pct@ipaustalia.gov.au          Facsimile No. (02) 6285 3929</b>	Authorized Officer  <b>Matthew Hollingworth</b> Telephone No. (02) 6283 2024

## Box No. I Basis of the report

1. With regard to the language, this report is based on:

☒ The international application in the language in which it was filed☐ A translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:☐ international search (under Rules 12.3(a) and 23.1 (b))☐ publication of the international application (under Rule 12.4(a))☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):☐ the international application as originally filed/furnished☒ the description:

pages 1-4, 6-41 as originally filed/furnished

pages\* 5 received by this Authority on 23<sup>rd</sup> December 2005 with the letter of the same date

pages\* received by this Authority on with the letter of

☒ the claims:

pages as originally filed/furnished

pages\* as amended (together with any statement) under Article 19

pages\* 42-56 received by this Authority on 23<sup>rd</sup> December 2005 with the letter of the same date

pages\* received by this Authority on with the letter of

☒ the drawings:

pages 1-6 as originally filed/furnished

pages\* received by this Authority on with the letter of

pages\* received by this Authority on with the letter of

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.3. ☐ The amendments have resulted in the cancellation of:☐ the description, pages☐ the claims, Nos.☐ the drawings, sheets/figs☐ the sequence listing (*specify*):☐ any table(s) related to the sequence listing (*specify*):4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).☐ the description, pages☐ the claims, Nos.☐ the drawings, sheets/figs☐ the sequence listing (*specify*):☐ any table(s) related to the sequence listing (*specify*):

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/NZ2004/000228

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## Statement

Novelty (N)	Claims 1-84	YES
	Claims	NO
Inventive step (IS)	Claims 1-84	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-84	YES
	Claims	NO

## 2. Citations and explanations (Rule 70.7)

- D1: EP 1 288 795 A1 (BRITISH TELECOMMUNICATIONS), 5 March 2003
- D2: H. Kautz et al, *Referral Web: Combining Social Networks and Collaborative Filtering*, March 1997
- D3: US 6,430,558 B1 (DELANO), 6 August 2002
- D4: J. M. Pujol et al, *Porqpine: A Peer-to-Peer Search Engine*, 1 May 2004

The above documents represent the closest available art, and do not anticipate the claimed invention. In particular, while D1 discloses a search engine utilising a social network, it does not offer search suggestions (such as recent searches and/or popular searches) derived from searches performed by members of the user's social network.

It is acknowledged that the term 'comprise' may, under varying jurisdictions, be attributed with either an exclusive or an inclusive meaning. For the purpose of this specification, and unless otherwise noted, the term 'comprise' shall have an inclusive meaning - i.e. that it will be taken to mean an inclusion of not only the  
5 listed components it directly references, but also other non-specified components or elements. This rationale will also be used when the term 'comprised' or 'comprising' is used in relation to one or more steps in a method or process.

It is an object of the present invention to address the foregoing problems or at least to provide the public with a useful choice.

- 10 Further aspects and advantages of the present invention will become apparent from the ensuing description which is given by way of example only.

#### DISCLOSURE OF INVENTION

According to one aspect, there is provided a search engine system capable of displaying *indicative information* including search suggestions to a user derived  
15 from searches performed by one or more entities connected directly or indirectly with the user, wherein said search *suggestions* include *recent searches* and/or *popular searches* performed by said entities.

In one embodiment, said entities are '*user contacts*'.

According to a further aspect, the present invention includes a system providing  
20 the user with a private *personal contacts network* of *user contacts*.

As used herein, the term 'entity' or 'entities' refers to any individual, family, personal or *organised network*, organisation, club, society, company, partnership, religion, or entity that exists as a particular and discrete unit.

**CLAIMS:**

1. A search engine system capable of displaying *indicative information* including search *suggestions* to a user derived from searches performed by one or more entities connected directly or indirectly with the user, wherein said search *suggestions* include *recent searches* and/or *popular searches* performed by said entities.
2. A search engine system as claimed in claim 1, wherein said entities are denoted as '*user contacts*'.
3. A search engine system as claimed in claim 2, wherein, each *user contact* includes a *connection factor* indicative of the degree of separation between the *user contact* and the user.
4. A search engine system as claimed in any one of claims 2-3, wherein at least one user is provided with an interface between said search engine system and with a *private personal contacts network* of *user contacts* unique to said user.
5. A search engine system as claimed in any one of claims 2-3, including a *private personal contacts network* of *user contacts* accessible by at least one user.
6. A search engine system as claimed in claim 5, wherein each said *private personal contacts network* is unique to an individual user.
7. A search engine system as claimed in any one of claims 4-6, wherein said *private personal contacts network* provides *interrelationship context information* between said entities.

8. A search engine system as claimed in any one of claims 4-6, wherein said *private personal contacts network* provides *interrelationship context information* between a *user contact* and the user.
9. A search engine system as claimed in any one of claims 4-8, wherein said *interrelationship context information* includes said *connection factor*.
10. A search engine system as claimed in any one of claims 4-9, wherein said *interrelationship context information* includes one or more *entity attributes*.
11. A search engine system as claimed in claim 10, wherein said system *entity attributes* include at least one *identifying characteristic*.
12. A search engine system as claimed in claim 10, wherein said system *entity attributes* includes information regarding personal details, interests; friends; relations; school alumni; employment factors; business colleagues; professional acquaintances; sexual preferences, persuasions, or proclivities; sporting interests; entertainment, artistic, creative or leisure interests; travel interests, commercial, religious, political, theological or ideological belief or opinions; academic, scientific, or engineering disciplines; humanitarian, social, security/military or economic fields and any combination of same.
13. A search engine system as claimed in any one of the preceding claims, wherein said *searches* include any interrogation of a database via a network, including a search of web-sites via the internet.
14. A search engine system as claimed in any one of the preceding claims, wherein each search includes user-inputted *keywords* and an output listing of *search results*.

15. A search engine system as claimed in claim 14, wherein said *recent searches* denote recent *keywords* or *search results* associated with the *keywords* used by the *user contacts* and said *popular searches* denote a ranking of the most popular *keywords* or *search results* associated with the *keywords* used by the *user contacts*,
16. A search engine system as claimed in any one of the preceding claims, wherein said *indicative information* includes search results *weighting*.
17. A search engine system as claimed in claim 14, wherein said *suggestions* include at least one of;
  - *recent web-sites* denoting recent web sites accessed by the *user contacts* either directly, or via *recent searches*;
  - *popular web-sites* denoting a ranking of web sites most regularly visited by, and/or recommended by the *user contacts*;
  - *high-flying searches* denoting a list of *keywords* or *search results* associated with the *keywords* ranked according to their rate of increase in the *popular searches* ranking;
  - *high-flying web-sites* denoting a list of web-sites ranked according to their rate of increase in the *popular web-sites* ranking;
  - popular or recently accessed paid web listings.
18. A search engine system as claimed in any one of claims 15-17, wherein the *suggestions* are based on a *selective input* from the *user contacts*.
19. A search engine system as claimed in claim 18, wherein said *selective input* is filtered according to at least one *filter criteria* including elapsed

period since the *suggestion creation*, the *interrelationship context information*, the *connection factor* and/or *entity attributes* of the *user contact*.

20. A search engine system as claimed in any one of claims 7-19, wherein said *interrelationship context information* includes a *connection factor* indicative of the separation between *user contacts* in said *private personal contacts network*.
21. A search engine system as claimed in any one of claims 7-19, wherein, access to the *interrelationship context information* between the user and said entities is restricted.
22. A search engine system as claimed in claim 21, wherein said restricted access is defined by the user.
23. A search engine system as claimed in any one of claims 11-23, wherein said *identifying characteristic* includes at least one of the group including; the entity's name, means of contacting the entity, including an e-mail address; telephone and/or facsimile number; postal address and/or any communication means capable of individually communicating with the entity or any combination of same.
24. A search engine system as claimed in any one of claims 11-24, wherein said *identifying characteristics* includes at least one said *entity attribute*.
25. A search engine system as claimed in claim 24, wherein said *identifying characteristics* include *supplementary attributes* of said user.
26. A search engine system as claimed in any one of the preceding claims, wherein entities agreeing to inclusion in a user's *personal contacts*



*network* are said to be *direct user contacts*.

27. A search engine system as claimed in any one of the preceding claims, wherein two entities linked through any number of intermediate entities are defined as "connected".
28. A search engine system as claimed in any one of the preceding claims, wherein two entities existing independently in a *personal contact network* without any intermediate connecting entities are defined as "disconnected".
29. A search engine system as claimed in any one of claims 3-28, wherein said *connection factor* includes a *connection path length* between two entities, given by the minimum possible number of connections in a chain of entities separating said two entities.
30. A search engine system as claimed in claim 29, wherein the said *connection factor* is equal to the shortest *connection path length* of all the available *connection paths* between the entities.
31. A search engine system as claimed in claim 29 or 30, wherein an entity that is directly connected to another entity is said to be a *direct contact* giving a "1<sup>st</sup> degree contact," and has a *connection path length* of one; two entities connected via one intermediate entity are said to be "2<sup>nd</sup> degree contacts," and have a *connection path length* of two, and wherein any two entities whose shortest connection path is via "N-1" intermediate entities (if any), with a path length of "N" are an "N<sup>th</sup> degree contact, where "N" is an integer.

32. A search engine system as claimed in any one of claims 29-31, wherein entities having a 2<sup>nd</sup> or higher degree contact are termed *indirect contacts*, or indirectly connected.
33. A search engine system as claimed in any one of claims 29-32, wherein said system is configured to allow a user to apply a *selective input* to the user's *suggestions* by using a *filter criteria* for controlling the N<sup>th</sup> degree contact of entities to be included, where N is a variable determined by the user.
34. A search engine system as claimed in claim 33, wherein the *filter criteria* for said *selective input* is linked to a *predetermined activity*.
35. A search engine system as claimed in claim 33, wherein a user engaged in one or more said *predetermined activities* may specify the action to apply to;
- all degrees of contact in the user's *personal contacts network*, at any *connection path length*, or
  - all *user contacts*, including those disconnected from the user.
36. A search engine system as claimed in any one of claims 33-35, wherein said *selective input* is receivable from networks outside the system network.
37. A search engine system as claimed in any one of claims 33-36, wherein said *suggestions* are a weighted average of *direct contacts* and *indirect contacts*.

38. A search engine system as claimed in any one of claims 33-36, wherein the *selective input* is user-definable.
39. A search engine system as claimed in any one of claims 15-38, wherein *user contacts* associated with the *suggestions* most frequently chosen by a user are designated *preferred user contacts*.
40. A search engine system as claimed in claim 39, wherein said designation of *preferred user contact* is performed directly by the user, or calculated by the system by determining the *user contact* associated with the most popular *suggestions* previously selected by the user.
41. A search engine system as claimed any one of claims 39-40, wherein the *selective input* may be at least partially weighted by *suggestions* from the *preferred user contacts*.
42. A search engine system as claimed any one of claims 39-40, wherein the *selective input* is varied according to factors associated with the *user contact*, including the *interrelationship context information*, the *connection factor* and/or *entity attributes* associated with the contributing *user contact*.
43. A search engine system as claimed any one of claims 39-42, wherein the *search results* associated with a *keyword* may be weighted according to a *selective input* from the *user contacts*.
44. A search engine system as claimed in claim 43, wherein said *selective input* from the *user contacts*, includes *filter criteria* related to the *interrelationship context information*, the *connection factor* and/or *entity attributes* associated with the *user contact*.

45. A search engine system as claimed in any one of the preceding claims, wherein a *user contact* who last performed a search, or recommended a particular web-site/search result is contactable via a link adjacent to the *keyword* search terms and/or web-sites.
46. A search engine system as claimed in any one of the preceding claims, wherein a *partner web-site* is given a unique link to the search engine, configured such that users clicking on the search engine link are linked to a search page with the participating *partner web-site* listed as the top of the *popular searches* and/or *recent web-sites suggestions* listing.
47. A search engine system as claimed in claim 46, wherein said *partner web-sites* include a link to the search engine web-site whereby both web-sites are listed under the *suggestions* at both websites.
48. A search engine system as claimed in either claim 46 or claim 47, wherein said *partner web-site* displays a list of *suggestions* obtained from the generic search activities of all *partner web-site* users.
49. A search engine system as claimed in either claim 45-48, wherein said *partner web-site* displays a list of *suggestions* for users having their own *private personal contacts network* obtained from the *suggestions* associated by the activities of their *user contacts* on the *partner web-site*.
50. A search engine system as claimed in claims 14-49, wherein on a commercial web-site, a *recommendation* to related products to the *keywords* being searched for which were bought, viewed, subscribed to may be made by previous *user contacts* to the site.

51. A search engine system as claimed in any one of the preceding claims, wherein provided to a user as a toolbar.
52. A search engine system as claimed in claim 51, wherein said tool bar monitors web-sites accessed by the user directly without conducting a keyword search as an input to the suggestions data and search weightings.
53. A search engine system as claimed in claim 51 or claim 52, wherein said tool bar may also display or provide access to the most recent suggestions data from the user contacts.
54. A search engine system as claimed in any one of claims 51-53, wherein upon accessing a web-site, the user is optionally notified by the toolbar of their user contacts who visited that site.
55. A search engine system as claimed in claim 53, wherein upon accessing a web-site, the user is optionally notified which subsequent sites the user contact accessed.
56. A search engine system as claimed in any one of the preceding claims, wherein the search engine is configured to provide the user with notifications of further specified occurrences, including access of a specified (or book-marked) web-site by a user contact and/or an associated recommendation to same, or further sites accessed after the book-marked site, or of any new material at, or links to, the specified site.
57. A search engine system as claimed in any one of the preceding claims, wherein the search engine includes means for linking an appraisal with a search result and/or suggestion.

58. A search engine system as claimed in claim 57, wherein said *appraisal* may include an (optionally graded) *recommendation* and/or *user comments*.
59. A search engine system as claimed in any one of claims 57-58, wherein said *appraisals* are performed via links associated with individual results on *search results* listing.
60. A search engine system as claimed in any one of claims 57-58, wherein said *appraisals* are performed whilst accessing the search result or *suggestion* web-site via a link to the search engine.
61. A search engine system as claimed in claim 58, wherein the *user comments* are unrestricted typed comments and/or selected from a predetermined list of *appraisal gradings*.
62. A search engine system as claimed in any one of claims 57-61, wherein said *user recommendations* are used as a factor in *weighting* the *search results*.
63. A search engine system as claimed in any one of claims 57-61, wherein users are accorded a predetermined number of *recommendations* according to a predetermined *user recommendation credibility* criteria.
64. A search engine system as claimed in claim 63, wherein said *recommendation credibility* may be determined by active or automatic *affirmations* of said *user recommendations* by the *user contacts*.
65. A search engine system as claimed in claim 63, wherein *recommendation credibility* criteria may include a fixed quota of *recommendations* over a

specified time period, or linked to particular *entity attributes* for *recommendations* for web-sites associated with said *entity attributes*.

66. A search engine system as claimed in any one of the preceding claims, wherein said system is user-configurable to provide the ability for a user to delete *searches* or web-activity from incorporation in said *indicative information*.
67. A search engine system as claimed in any one of the preceding claims, wherein each user is provided with an editable *history log* of previous *searches* they have performed and web-sites accessed.
68. A search engine system as claimed in any one of claims 15-67, wherein users can submit *recommendations* for sites limited to specific *keywords*.
69. A search engine system as claimed in any one of claims 10-67, wherein the *weighting* of individual *user contacts* may be passively/automatically or actively adjusted based on criteria defined by the user including usefulness of the *user contact's* browsing, reliability of results, personal tastes, and/or any *entity attribute* known to the system.
70. A search engine system as claimed in any one of the preceding claims, incorporating a book-marking system, whereby a user accessing a given web-site may use a book-marking feature on the search engine web-site to add the bookmarked web-site to a compilation list of other bookmarked sites.
71. A method of *brokering* services utilising a search engine system as claimed in any one of the preceding claims, said services being provided by a *partner web-site* or *broker* acting as an intermediary between

advertisers and *partner web-sites* and/or websites featuring the search engine system and including the provision of *suggestions* relevant to the advertiser product(s), service(s), web-site(s), or company(ies) on said *partner web-site*, and/or the search engine.

72. A method as claimed in claim 71 wherein a *partner web-site* offers said service directly to advertisers or representatives of advertisers.
73. A method as claimed in claim 71 or claim 72 wherein said offer of *suggestion(s)* to the advertiser is made available to all or a subset of the users of the *partner web-site*.
74. A method as claimed in any one of claims 71–73, wherein said *suggestion(s)* are *recommendations*.
75. A method as claimed in any one of claims 71–74, wherein said *suggestion(s)* would be displayed to those *partner web-site* users who had previously accessed related *suggestion(s)*.
76. A method as claimed in claim 71, wherein said *brokering service* is provided between advertisers and *partner web-sites*.
77. A method as claimed in claim 76, wherein said *partner web-sites* provide access to their users for the displaying of *suggestions* and distribution of *recommendations* without said *partner web-sites* being involved in the selection of advertisers and *suggestions*.
78. A method as claimed in claim 71, wherein said *brokering service* are provided to other *brokers* or companies providing internet-searching advertising, whereby sponsored search results are offered to advertisers at fixed-price or via auction in exchange for providing the advertiser a



negotiated ranking position in a *keyword* search results presented to a users performing a search on the *keyword* purchased by the advertiser.

79. A method as claimed in claim 78, wherein said services further include the ability for advertisers to bid for, or buy the rights to be included in *suggestions* to *partner website* users, individual users and/or search engine system users who have previously accessed similar, related or identical *suggestions* or *recommendations*.
80. A search engine system as claimed in any one of claims 1 – 70 capable of displaying *indicative information* to a user from *searches* performed by entities (or 'user contacts') connected directly or indirectly with the user, wherein said system includes;
- at least one host computer processor connectable to one or more network(s),
  - a database accessible over said network(s),
  - a plurality of data input devices connectable to said network(s),
  - a search engine accessible over said network(s),
  - wherein said system is capable of forming said *private personal contacts network* for each of one or more users by receiving input from the said user including at least one identifying characteristic of the user and of one or more chosen entities known to said user,
  - recording said identifying characteristic of each entity including the user to form one or more corresponding entity data records in said database,

- notifying the or each chosen entity of their recordal on said system and requesting input of at least one identifying characteristic of one or more further entities known to the or each said chosen entity,
  - recording the identifying characteristic of each further entity inputted by the or each said chosen entity to form further corresponding entity data records,
  - repeating the above steps of successive notification of further entities and recordal of the identifying characteristic of each further entity chosen as further entity data records,
  - providing searchable access to at least part of the entity data records stored in said database and to the internet.
81. A search engine system as claimed in claim 80, wherein said searchable access to an entity data record may be restricted by the entity to said *user contacts*.
82. A search engine system as claimed in claims 80 or claim 81, wherein said data input devices include computer terminals, PDAs, telephones, mobile phones, laptops, notebooks, any other portable personal computing device connectable to said network.
83. A search engine system as claimed in claim 82, wherein said data input devices provide at least one of webpage, e-mail, text message, DTMF tone, voice or video access to the said host computer or between entities and/or web-browsing access to said host computer via a dedicated web-site interface.

84. A method of creating a private *personal contacts network* for interaction with a search engine system as claimed in any one of claims 1 – 70 or 80 – 83, said method including the steps performed by a processor of a data processing and storage system, of:

- receiving input from the said user including at least one *identifying characteristic* of the user and at least one chosen entity known to said user and hereinafter referred to as a *user contact*;
- recording said *identifying characteristic* of each *user contact* including the user to form at least one corresponding *user contact data record* in said database;
- notifying the or each *user contact* of their recordal on said system and requesting input of at least one *identifying characteristic* of at least one further entity known to the *user contact*;
- recording the *identifying characteristic* of each further entity inputted by the or each *user contact* to form further corresponding *user contact data records*;
- repeating the above steps of successive notification of further entities and recordal of the *identifying characteristic* of each further entity chosen as further *user contact data records*;
- providing searchable access to at least part of the *user contact data records* stored in said database.